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TRANSMITTAL FORM

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Application Number	10/066,281
Filing Date	02/01/02
First Named Inventor	MAX FRIEDHEIM
Art Unit	3742
Examiner Name	S. Y. PAIK
Attorney Docket Number	1776-011

Total Number of Pages in This Submission: 17

ENCLOSURES *(Check all that apply)*

- [ ] Fee Transmittal Form
- [x] Fee Attached
- [ ] Amendment/Reply
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- [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	JOSEPH R. EVANNS, EVANNS & WALSH
Signature	
Date	AUGUST 27, 2004

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DESIGNEE AUTHORIZATION

TO:

CLAIM NO.

DATE OF LOSS: 1/20/04

PURSUANT TO SECTION 2695.2(c) OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 10, CHAPTER 5; I AUTHORIZE JOSEPH R. EVANNS MY ATTORNEY TO HANDLE MY AUTO CLAIM UNDER THE ABOVE CAPTIONED LOSS.

This authorization shall be valid for only one year from the date below unless renewed or revoked by the undersigned. Any and all prior authorizations are hereby revoked by the undersigned as of the date of this authorization.

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ORIGINAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

MAX FRIEDHEIM

Serial No.: 10/066,281

Filing Date: 2/01/02

FOR: SUPERHEATED VAPOR GENERATOR AND METHOD

Group Art Unit: 3742

Examiner: S.Y. Paik

APPELLANT'S BRIEF

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APPELLANT'S OPENING BRIEF (37 C.F.R. 1.192)

Commissioner for Patents
P.O. Box 1450
Arlington, VA 22313-1450

ATTENTION: BOARD OF PATENT APPEALS AND INTERFERENCES

Sir:

This brief is in furtherance of the Notice of Appeal, filed in this case on July 1, 2004.

The fees required under Sec. 1.17, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings, and in the order set forth below (37 C.F.R. 1.192)

I. REAL PARTY IN INTEREST

II. RELATED APPEALS AND INTERFERENCES

III. STATUS OF CLAIMS

I. REAL PARTY IN INTEREST.

The Real Party in Interest in this application and appeal is Max Friedheim, the named inventor on the within patent application.

II. RELATED APPEALS AND INTERFERENCES.

There are no related appeals and/or interferences with respect to the within appeal.

III. STATUS OF CLAIMS.

Claims 1-27 are under final rejection.

IV. STATUS OF AMENDMENTS.

A formal amendment after the first Office Action was entered.

V. SUMMARY OF THE INVENTION

An improved superheated vapor generator defines an internal vaporizing chamber having input and output ports with means connectable to at least one of said ports to adjust and control input and output of superheated vapor.

A method for fabricating a superheated vapor generator in accordance with the invention includes the steps of providing at least two sections secureable together to define an enclosed interior space, and providing at least one adjustable valve member for at least input of liquid and output of superheated vapor, and further including the step of fastening said at least two sections together. The wall portion of the vaporization chamber may have any desired arbitrary surface configuration, and in particular embodiments may be substantially smooth, eched, grooved, or including perforations of arbitrary cross section or irregularities such as crack-like openings among other configurations in accordance with the invention.

A method of employing a superheated vapor generator system with controllable output includes adjusting the output for use for cleaning and sterilization including application to small, inaccessible or fragile surfaces to be cleaned or sterilized and further includes adjustment such that output may be employed for propulsion among other applications.

VI. ISSUES PRESENTED FOR REVIEW

(1) Are claims 1-8, 11, 12, 26 and 27 properly rejected as being allegedly anticipated (under 35 USC 102) by the Huchinson patent, U.S. Pat. No. 6,393,212?

(2) Are claims 1-8 and 11-27 properly rejected on the grounds of obviousness (35 USC 103) as being allegedly unpatentable over Friedheim (U.S. Patent No.

5,471,556), or Friedheim (U.S. Pat. No. 4,414,037) in view of Hutchinson (U.S. Pat. No. 6,393,212).

VII. GROUPING OF CLAIMS.

Rejected Claim 1 is independent and rejected claims 2-20 in issue depend from Claim 1. Rejected Claim 21 is independent, and rejected claims 22-25 in issue depend from Claim 21. Rejected Claim 26 is independent. Rejected claim 27 is independent.

At issue are rejected claims 1-27 inclusive. Claims 1, 21, 26 and 27 are independent and all other claims in issue depend from one of the independent claims. All claims at issue are separately patentable and do not stand or fall together as to each ground of rejection that applies to two or more claims except, of course, patentability of any independent claim will render patentable all claims depending therefrom.

VIII. ARGUMENT

A. REJECTION OF CLAIMS 1-8, 11, 12, 26 AND 27 AS ANTICIPATED BY HUCHINSON (U.S. PATENT NO. 6,393,212) IS ERROR WHICH MUST BE REVERSED.

Under 35 U.S.C. 102, anticipation requires the disclosure in a single piece of prior art of every limitation of the claimed invention. Electro Med. Sys. S.A. v. Cooper Life Sciences, 34 F.3d 1048, 32 USPQ 2d 1017, 1019 (Fed. Cir. 1994)

The Huchinson reference does not meet these very specific anticipation requirements, as set forth by the above authority.

The Huchinson device is a steam generator operating within an immersible heater in a liquid, whereas the invention of the application is based upon a flash boiler with a superheated vaporization chamber. The internal ports of the Huchinson device function as baffles to create turbulent mixing as the water in the Huchinson device heats to create sufficient pressure for steam to exit. Regulation of output is accomplished by spray nozzles and controls thereof at the output of the Huchinson device. See for example, Huchinson, Col. 3, lines 49-58; see also Col. 8, lines 27-29. (Emphasis added).

In the above-cited passages, it is clear that the Huchinson device regulates output by means of the output 48, and that the generation of superheated steam is a slow step-by-step process: "Water is injected at an input and flows through a series of time delay turbulent [sic] creating baffles positioned in the heating cylinder to form a diffused flow path of variable length and dwell time as it passes from the input to the exit. In the steam generating mode the diffused spiral flow path will cause the small amount of water injected at the input to be converted to steam as it is transported to the output port." Huchinson, column 3, lines 42-48.

In a passage cited by the Examiner, the Huchinson disclosure states: "Pulse type piston pump 30 provides low flow capacity and pressure required to inject feed water into the input 12 against the steam generating cylinder 10 internal pressure as regulated by output variable pressure regulating control valve 48." Huchinson, Col. 6, lines 56-60 (Emphasis added).

"Another unique feature is the use of a variable pressure control valve 48 at the output 14 of steam generating cylinder 10. Variable pressure control valve 48 allows both the pressure and flow volume of the steam output of heater/baffle system to be controlled.

Variable pressure control valve 48 also allows further regulation of the overall fluid/vapor dwell time for the formation of steam within steam generating cycle 10. Variable pressure control valve 48 also allows direct control of output pressure..." Huchinson, Col. 8, lines 20-29. (Emphasis added).

This is in complete contrast to the regulation feature of the instant invention at the input as defined in the subject claims. There is no counterpart in Huchinson to the "adjustable control means for controlling input into said vaporization chamber whereby generation of superheated vapor is controllable," as recited in Claim 1 hereof. All control in the Huchinson reference is at the output port 48. Any input control would be contraindicated because of the basic difference in structure and function between a flash boiler and the heating arrangement in Huchinson.

The Examiner's response to the foregoing is garbled and does not meaningfully deal with the issues raised by Applicant: "The applicant argues that the applied prior art Hutchinson does show [sic] the claimed adjustable control means for controlling input of liquid into said vaporization chamber. This control means is clearly shown by Hutchinson as shown in Figures 3, 11 and 24. The input of liquid is clearly done with the microprocessor that controls the pump that pumps the liquid into the vaporization chamber." Office Action dated 2/12/04, p.4. The foregoing is literally incorrect and diametrically opposed to Applicant's position in that Applicant has argued throughout that the Hutchinson reference did not show the adjustable control means for controlling input of liquid into the vaporization chamber whereby generation of superheated vapor is controllable. (See Applicant's Amendment dated October 10, 2003, p.3).

Throughout, the Examiner erroneously ignores Hutchinson's regulation of output at the output not at the input. Hutchinson, Col. 6, lines 56-60.

Accordingly, Claims 1, 2 cannot be, and are not anticipated by the Huchinson reference. Similarly, Claims 3-8, 11, 12, 26 and 27 are not anticipated by Huchinson in view of the "adjustable control means for controlling input of liquid into said vaporization chamber whereby generation of superheated vapor is controllable" contained in base claim 1, which limitation is as noted not present in the Huchinson reference.

In rejecting the subject claims, the Examiner failed to discharge the burden upon the Patent Office to show non-patentability of the claimed subject matter by a preponderance of evidence. See Ex parte Hanson, 16 USPQ 2d, 1441, 1442-1443 (Bd.Pat.App. and Int'f. 1989).

Accordingly, rejection under 35 USC §102(e) is not well taken and should be reversed.

B. THE REJECTION OF CLAIMS 1-8, and 11-27 FOR OBVIOUSNESS UNDER 35 USC §103(a) IS ERROR AND MUST BE REVERSED.

Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. *Para-Ordnance Manufacturing, Inc. v. SGS Importers International, Inc.* 73 F.3d 1085, 37 USPQ 2d 1237 (Fed.Cir. 1995).

It is well-established that a reference should be considered as a whole and portions arguing against the claimed inventions must be considered. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 230 USPQ 416 (Fed. Cir. 1986). As

noted in *Gillette Co. v. S.C. Johnson & Son, Inc.* 919 F.2d 720, 16 USPQ 2d 1923 (Fed. Cir. 1990), the closest prior art reference "would likely discourage the art worker from attempting the substitution suggested by [the inventor/patentee]." (Emphasis in the original).

The rejection under 35 USC §103(e) of claims 1-8 and 11-27 as unpatentable over Friedheim (US Pat. No. 5,471,556) or Friedheim (US Pat. No. 4,414,037) in view of Huchinson (US Pat. No. 6,393,212) was not well taken and should be reversed.

As noted above, the Huchinson device and the apparatus of the present application are wholly distinct and are in totally different fields: Applicant's being a flash boiler (a device for extremely rapidly –i.e., "flash" production of superheated vapor, as opposed to the relatively slow and relatively low temperature production and vapor of the Huchinson device).

On that ground alone, there would be no incentive for anyone skilled in the art to seek in any field of search for the Huchinson device in an attempt to reconstruct the device of the instant application. *In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 443 (Fed. Cir. 1992).

Moreover, there is no showing or suggestion in the art of record, singly or combined, of the input port control recited in the claims of the instant application. There would in fact be no point to an input port control for the Huchinson device because of the relative slowness of the generation of the superheated vapor thereby, rendering any such input control ineffective and superfluous. Clearly, the Hutchinson reference discourages input port superheated vapor output due to its focus on control at the output, rendering the

hindsight reconstruction of the Examiner impermissible . *Para-Ordnance Manufacturing, inc. v. SGS Importers International, Inc. supra.*

The "flash boiler" aspect of the present invention makes it feasible to employ input control for the purpose of controlling output of superheated vapor. Clearly, as described in the specification, a variation in the flow of liquid into the vaporization chamber will result in substantially completely extremely rapidly vaporized superheated vapor, and will vary the output, since the vapor upon its creation from the input liquid is almost immediately available for issuance at output. The substantially greater speed with which the instant invention works *vs.* the Huchinson device allows for the control of output via the control of input, since the Huchinson device is relatively slow and operates at a relatively low temperature, this would not be the case for the Huchinson device.

The Berthoud reference (U.S. Pat. No. 3,863,841) is inapposite and inapplicable on similar grounds as discussed above in connection with the Huchinson reference. Berthoud involves spray nozzles and control thereof for control of liquid at output for large volume and area spraying, such as fields.

In the instant invention as defined by the claims, output volume is controlled at the input by controlling input of liquid for vaporization. Output control herein merely reduces volume and adjusts final exit pressure.

The Wahlin reference (US Pat. No. 2,683,626) is inapposite and inapplicable: the device provides means to control sprays at the output of a dispensing system.

Similar considerations apply to independent method claims 21, 26, 27.

Accordingly, the Examiner having failed to discharge the burden on the Patent Office to show non-patentability of claimed subject matter by a preponderance of

evidence, rejection of independent claims 1, 21, 26, 27 and all claims depending therefrom, must be reversed. *Ex Parte Hanson*, 16 USPQ 1441, 1442-1443 (Bd. Pat. App. and Int'f 1989).

IX. APPENDIX OF CLAIMS

CLAIMS

Claim 1 (previously presented). An improved vapor generator and control system comprises:

(1) a vaporization chamber for generating superheated vapor from liquid therein; and

(2) at least one input port for input therethrough of liquid for vaporization in said vaporization chamber, said input port including means connectable to adjustable control means for controlling input of liquid into said vaporization chamber whereby generation of superheated vapor is controllable.

Claim 2 (previously presented). The invention as set forth in Claim 1 wherein said control means controls volume of liquid input into said vaporization chamber.

Claim 3 (previously presented). The invention as set forth in Claim 1 further including at least one output port for output therethrough of superheated vapor from said vaporization chamber, said at least one output port including means connectable to output control means for controlling output from said vaporization chamber.

Claim 4 (previously presented). The invention as set forth in Claim 3 wherein said output control means controls pressure of output from said vaporization chamber.

Claim 5 (previously presented). The invention as set forth in Claim 3 wherein said output control means controls volume of output from said vaporization chamber.

Claim 6 (previously presented). The invention as set forth in Claim 3 wherein said output control means comprises at least one valve member.

Claim 7 (previously presented). The invention as set forth in Claim 3 wherein said output control means includes means for directing in a selected direction superheated vapor from said vaporization chamber.

Claim 8 (previously presented). The invention as set forth in Claim 7 wherein said output control means comprises at least one valve member.

Claim 9 (previously presented). The invention as set forth in Claim 7 wherein said output control means is adjustable for directing superheated vapor from said vaporizing chamber in a plurality of selected directions.

Claim 10 (previously presented). The invention as set forth in Claim 8 wherein said at least one valve member comprises a plurality of valve members at least two of which are adjustable to direct output superheated vapor in substantially perpendicular directions.

Claim 11 (previously presented). The invention as set forth in Claim 3 wherein said output port is connectable to at least one object to which superheated vapor is to be directed.

Claim 12 (previously presented). The invention as set forth in Claim 3 wherein said output control means is connectable to at least one object to which superheated vapor is to be directed.

Claim 13 (previously presented). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which is rough.

Claim 14 (previously presented). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which defines at least one groove.

Claim 15 (previously presented). The invention as set forth in Claim 14 further including at least one groove other than the first-mentioned groove and wherein said first-mentioned groove and said second-mentioned groove intersect.

Claim 16 (previously presented). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which defines a plurality of grooves.

Claim 17 (previously presented). The invention as set forth in Claim 16 wherein said plurality of grooves vary substantially randomly in depth in a range substantially .030 inch to .050 inch.

Claim 18 (previously presented). The invention as set forth in Claim 4 wherein said output control means is configured to be hand-held by an operator and to be controlled by said operator.

Claim 19 (previously presented). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which includes at least one perforation.

Claim 20 (previously presented). The invention as set forth in Claim 1 wherein said vaporization chamber has at least a portion of an inner surface which includes at least one irregularity.

Claim 21 (currently amended). A method of fabricating a superheated vapor generator and control system comprising the steps of:

(a) providing at least two separate parts of a vapor generator;

(b) fastening said parts together to form a vapor generator defining a vaporization chamber;

(c) providing means for connecting to control means for input to said vapor generator for controlling input of liquid into said vaporization chamber.

Claim 22 (previously presented). The method as set forth in Claim 21 further including the step of providing control means at the output of said vapor generator.

Claim 23 (previously presented). The method as set forth in Claim 21 further including the step of defining at least one groove in at least a portion of an inner surface of at least one of said ports.

Claim 24 (previously presented). The invention as set forth in Claim 21 further including the step of defining a plurality of grooves in at least a portion of an inner surface of at least one of said ports, such that said grooves vary in depth substantially randomly in height and depth in the range of .030 inch to .050 inch.

Claim 25 (previously presented). The invention as set forth in Claim 22 wherein said output control means are adjustable to control the direction of superheated vapor from said vaporization chamber.

Claim 26 (currently amended). A method for cleaning selected objects comprising the steps of:

(a) generating superheated vapor; and

(b) controlling volume, pressure or direction of output superheated vapor for a selected object to be cleaned.

Claim 27 (currently amended). A method for propulsion comprising the steps of:

(a) generating superheated vapor; and

(b) controlling output of superheated vapor to provide propulsion.

Respectfully submitted
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